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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/607,193

06/27/2003

Lev Ryzhikov

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08/22/2006

STERNE, KESSLER, GOLDSTEIN & FOX PLLC
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WASHINGTON, DC 20005

EXAMINER

PRITCHETT, JOSHUA L

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,193

Applicant(s)

RYZHIKOV ET AL.

Examiner

Joshua L. Pritchett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-26 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-26 and 28-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to Amendment filed July 13, 2006. Claim 31 has been amended as requested by the applicant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18, 19, 21-26 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz (WO 98/28644). For text citations patent Schultz (US 6,366,410), which is a national stage of the PCT that WO 98/28644, is used as a translation while the WIPO document is being translated.

Regarding claims 18 and 29-31, Schultz teaches a pattern generator of a lithography system (col. 1 lines 8-10) having a first lens group (100) consisting of three lenses (Fig. 1) that decrease the numerical aperture of a received beam (Fig. 1); a second lens group (200) having at least one lens (Fig. 1) that receives the beam of radiation from the first lens group and controls characteristics of the beam of radiation at a pupil plane (claim 26). Claim 26 states that the

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intermediate portion (200) has an optical power. Lens elements with optical power are used to correct aberrations in the image pattern. Schultz further teaches a third lens group that receives the beam of radiation from the second lens group and controls field characteristics of the beam of radiation at a patterning device plane (Fig. 1). Fig. 1 shows that the third lens group of Schultz controls the size of the pattern on the plane (19) based on the focal length of the third lens group. Schultz teaches an aperture stop (8) positioned between the first and second lens groups (Fig. 1; col. 2 line 67) and a fold mirror (14) positioned between the second and third lens groups (Figs. 1 and 2; col. 3 lines 7-8). Schultz lacks specific reference to the third lens group containing only one lens. One of ordinary skill in the art would view reclassification of the lenses present in the Schultz reference as obvious. For example, the lenses shown within the bracket 300 of Figure 1 of Schultz could be considered separate third and fourth lens groups. Although the Schultz reference calls these two lenses a third lens group it is within the skill of one of ordinary skill in the art to classify the two lenses as separate lens groups absent any specific definition of a lens group. It would have been obvious to one of ordinary skill in the art at the time the invention was made to reclassify the lens groups of Schulz for the purpose of more succinctly identifying the optical elements associated with the third lens group to more accurately convey the specific optical element in question when addressing the third lens group.

Regarding claim 19, Schultz teaches the second lens group consists of two lenses (Fig. 1).

Regarding claim 21, Schultz teaches one of the lenses in the first lens group is a meniscus lens (Fig. 1).

Regarding claim 22, Schultz teaches two of the three lenses in the first lens group of biconvex lenses (Fig. 1).

Regarding claim 23, Schultz teaches one of the two biconvex lenses has an aspherical surface (col. 3 lines 3-5).

Regarding claim 24, Schultz teaches at least one lens in the second lens group has an aspherical surface (col. 3 lines 3-5).

Regarding claim 25, Schultz teaches at least one lens in the second lens group has at least one convex surface (Fig. 1).

Regarding claim 26, Schultz teaches the single lens in the third lens group comprises two spherical surfaces (col. 3 lines 3-5). Lenses in the art are assumed to be spherical unless otherwise indicated. There is no indication in the Schultz reference that either surface (15 or 16) are aspherical.

Regarding claim 28, Schultz teaches a light source (50) positioned before the first, second and third lens groups (Fig. 2); and a pattern generator (330) positioned after the third lens group (Fig. 2).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz (WO 98/28644) in view of Schultz (US 2002/0036832).

Schultz '644 in combination with Ueda teaches the invention as claimed but lacks reference to the use of three lenses in the second lens group. Schultz '832 teaches the use of a second lens group (705) with three lenses (Fig. 7). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Schultz '644 invention include three lenses in the second group as taught by Schultz '832 for the purpose of more precisely relaying the incident light to the pattern generator.

Response to Arguments

Applicant's arguments, see Amendment, filed July 13, 2006, with respect to the rejection(s) of claim(s) 18 and 31 under Schultz in view of Ueda have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Schultz. Applicant argued there was no motivation to combine the Ueda reference and the Schultz reference because replacing a lens group would not be obvious because there would be no reasonable expectation of success. The rejection is based solely on the Schultz reference, because the examiner deems reclassifying the name of a lens group and the components of a lens group to be obvious to one of ordinary skill in the art.

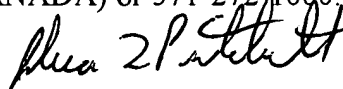
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Joshua L Pritchett
Examiner
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